

November 14, 2014

**Memorandum**

**TO:** EPA Region 7

**FROM:** West Lake Landfill CAG

**RE:** EPA for Dec 8, 2014 meeting (with TASC interpretation comments)

**TASC-assisted questions for the December 8 CAG meeting**

1. EPA has explained that a baseline risk assessment cannot address major community concerns about the risk of exposure to landfill contaminants in the event of a catastrophic event such as earthquake, flood, and tornado and high winds. The community is concerned about these potential disasters. Can EPA explain how these type of risks will be addressed within the Superfund process? An explanation of when and how EPA will address each of the risks listed would be helpful.

TASC Comment: These type of risks are typically evaluated during the design of a remedy. For example, at the Midnite Mine Superfund site in the state of Washington, an analysis of the site's seismic (earthquake) potential triggered an evaluation of the planned cover for mine wastes. The result was that the cover material was redesigned to withstand an earthquake. Such an analysis may be required at West Lake Landfill during remedy design, if the final decision is for contamination to be left in place. It is unlikely that EPA will address these type of risks prior to design of a specific remedy, but the CAG might like an answer from EPA about the timing of such types of analyses.

EPA Response: The TASC response is correct regarding the timing of the evaluation of risks to the long-term integrity of the site remedy. EPA will consider relevant site-specific issues such as potential catastrophic events during the final evaluation of remedial alternatives in terms of implementability, as well as during the remedial design phase.

2. The community is concerned that RIM exists in significant quantities outside of the boundaries of OU1, particularly that RIM exists in the areas of the Bridgeton Landfill that are now affected by the subsurface smoldering event. Can EPA review the past investigation results with the CAG that led the EPA to their conclusions? The discussions in past CAG meetings have not been understandable to community members. Also see question # 12 below, requesting an updated map of known RIM locations.

EPA Response: The location of RIM in Operable Unit 1 Areas 1 and 2 can be found in the 2008 Record of Decision, Figure 5-5. Additional RIM investigation in the south end of OU1 and the north end of the North Quarry was performed by Republic in November 2013 through February 2014. In December 2014, EPA received the Bridgeton Landfill Thermal Isolation Barrier Phase I report. On January 15, EPA requested that the PRPs perform additional RIM characterization at the site. Terrie Boguski, the TASC contractor providing technical assistance to the community can provide specifics from past investigations at the site. The GCPT Phase I report can be found at the following link: [www.epa.gov/region7/cleanup/west\\_lake\\_landfill/pdf/isolation-barrier-phase-1-report.pdf](http://www.epa.gov/region7/cleanup/west_lake_landfill/pdf/isolation-barrier-phase-1-report.pdf)

3. The community is concerned about worker safety at the Bridgeton Landfill. In particular, the community is concerned that safety protection from exposure to radiation and radon is inadequate and workers are reluctant to speak up because they fear that asking questions could cause them to lose their jobs. Can EPA assist the CAG in requesting additional OSHA scrutiny of the work at the site? The community would like to hear from OSHA about how workers are being protected and what specific radiation and radon monitoring is required at the site. Can EPA help facilitate this discussion with OSHA?

EPA Response: The Missouri Department of Natural Resources is the lead agency regarding work conducted at the Bridgeton landfill. The Occupational Safety & Health Administration (OSHA) has an office in St. Louis, and EPA has notified that office of the CAG's stated concern. We encourage any concerned community members or workers to contact OSHA directly with concerns about worker safety. The local OSHA office can be reached by calling 314-425-4249 or 800-392-7743. Request to speak with the "Duty Officer". According to OSHA, once a complaint is received, their office will assign an inspector to perform the health and safety inspection. All public complaint information provided to OSHA is confidential and not released to outside parties. They also have a complaint process available under whistleblower protection if needed.

4. Tragedies such as 9/11, hurricane Katrina and the Fukushima disaster have made US citizens more aware of the importance of proper planning for first responders. The community is concerned about the safety of first responders in the event of a surface fire at OU1. Can EPA provide any resources or planning and training for first responders who may need to respond to a surface fire at OU1? Or, can EPA direct first responders to resources for such planning/training? If this has already been done, the CAG would like to hear a summary of what help EPA has provided for first responders, or the current planning for first responder training that is ongoing.

EPA Response: Our Agency has assisted St. Louis County and other local first responder entities in developing their current emergency response plan in the unlikely event that necessitates an action by local first responders. EPA participated on numerous conference calls, reviewed and commented on draft plans, and continues to serve in an advisory capacity. Specifically, EPA Superfund program personnel are part of the Westlake Landfill Emergency Planning Team. The team is comprised of MDNR and other state agencies, St. Charles and Bridgeton FD, St. Louis County Health Department and County Emergency Management, and various other state and local agencies (i.e. Red Cross, Combat Support Staff, etc). The action plan includes elements to address firefighting, emergency response, relocation, and technical assistance that can be provided by state and federal entities.

5. The community is concerned about airborne contamination and odors from the Bridgeton Landfill subsurface fire. Can EPA review and conduct a risk analysis of the air monitoring data that is being collected by Missouri DNR? The CAG would like a summary of the results of any analysis of risk to the community. (adapted from Robin Dailey #1)

EPA Response: The MDHSS performs an analysis of the MDNR air monitoring data and publishes the results of their analysis on the MDNR Bridgeton Landfill website. EPA works in partnership with the state of Missouri. Their processes follow accepted quality control and quality assurance methods to ensure the integrity of the results.

6. In a recent e-mail to a Spanish Village Resident, Karl Brooks stated, "The scientific data available to this agency indicate that people living near and working around the Site are not currently being exposed to contaminants released from the Site that are above levels of concern." This statement is contradictory to information published by the Missouri Department of Health. On October 1 and 2, sulfur dioxide levels were reported in Spanish Village ABOVE LEVELS OF CONCERN. What exactly does Dr. Brooks mean when he says we are not being exposed to contaminants above levels of concern? (adapted from Tonya Mason #2)

**The relevant information on the Missouri Department of Health website is:**

"Sulfur dioxide concentration readings were recorded above levels of public health concern for several hours on October 1 and 2 in a residential location southeast of the landfill. During this time the monitors were experiencing fluctuations, potentially due to weather conditions including high humidity and changes in pressure from a passing storm. While sulfur dioxide readings were fluctuating, winds were predominantly from the south, rather than from the direction of the landfill. Exposure to the elevated levels of sulfur dioxide may cause respiratory irritation or other short-term symptoms, particularly in asthmatics or other sensitive individuals." [See <http://health.mo.gov/living/environment/bridgeton/#oct2-6/>]

TASC Comment:

The information in this comment is about how the Missouri Department of Natural Resources handles air monitoring and community notification. While it isn't related to what Dr. Brooks meant in his letter, it might be of interest to CAG members.

The Missouri Department of Natural Resources referred TASC to two documents about how they handle exceedances of levels of public health concern for air emissions from Bridgeton Landfill. The documents are on the Internet at:

<http://dnr.mo.gov/env/swmp/bridgeton/bridgetonrespnplan.pdf> and

<http://dnr.mo.gov/env/swmp/bridgeton/dhssairrespalertprotocol.pdf>.

A brief summary is below:

The Department of Natural Resources conducts daily air monitoring. If a contaminant level in air is confirmed to be above the level of public health concern, DNR's Solid Waste Management Program staff 1) contacts members of the Bridgeton Landfill Task Force to coordinate any response actions in the community and 2) issues a stop work order for activities at the Bridgeton Landfill that are causing a level of concern. Response actions/notifications to the community are managed by the local agencies on the Task Force. TASC was referred to the Bridgeton Police Department for information about procedures for local response actions. In responding to TASC, MDNR noted that, "A response has not been triggered that required notification to the community."

On October 1 and 2, the wind was predominantly from the south, and not from the direction of the landfill. Therefore, the detected sulfur dioxide could have been emitted from a different source. For example, coal-fired power plants and industrial equipment using high sulfur fuels can be major sources of sulfur dioxide emissions.

EPA Response: As explained in the TASC response above, MDNR did not confirm the October 1 and 2 sulfur dioxide levels as being above a level of public health concern or from the landfill. In the relevant paragraph cited by the CAG, the MDHSS stated that on October 1 and 2 the "...monitors were experiencing fluctuations, potentially due to weather conditions including high humidity and changes in pressure from a passing storm. While sulfur dioxide readings were fluctuating, winds were predominantly from the south, rather than from the direction of the landfill." This Agency stands by our statement that the scientific data available to us indicate that people living near and working around the Site are not currently being exposed to contaminants released from the Site that are above levels of concern.

7. Can EPA briefly explain its analysis (by ORD) of the potential risks from a subsurface fire at OU1? Is any additional analysis planned? (adapted from Robbin Dailey #2)

EPA Response: In consideration of the expected physical properties of the RIM that was disposed of in OU1, EPA's experts do not expect that RIM will become explosive in the presence of heat. In the unlikely scenario of the SSE reaching the RIM, EPA does not expect the landfill to emit irradiated particulate matter because the temperatures needed to cause such an event is far greater than those generated by the SSE. EPA does acknowledge that radon will be emitted, as it is a breakdown product of the RIM and also naturally occurring. Any radon emissions would be localized to cracks and fissures which may have developed, and not emitted from the entire site. Further, in a January 15 letter to the PRPs, EPA announced its intention to perform testing on RIM samples to further analyze its physical properties. The EPA continues to work with MDNR to collect and analyze additional information on SSE related temperatures, gases, and subsidence.

8. For planning purposes, the community would like to know what conditions or events at West Lake Landfill would prompt EPA to recommend (order?) an evacuation of Spanish Village/Terrisan Reste Mobile Home Park. Specifically, is there any predetermined set of conditions that would prompt an evacuation, such as elevated subsurface temperatures within a certain distance of RIM? Furthermore, how would emergency notification to evacuate be conducted? Is there a plan in place? Can EPA recommend a list of emergency items that residents should have in their homes in case of a catastrophic event at the landfill? (adapted from Tonya Mason #1 and Carole Parsons)

EPA Response: EPA has not identified a predetermined set of conditions that would prompt a local evacuation. Emergency notification and the decision to conduct an emergency evacuation is the responsibility of local authorities. EPA, along with others, assisted St. Louis County in preparing an emergency response plan for the area as discussed under answer #4 above.

9. Regarding the 2012 NRRB report/recommendations to EPA. Many people feel that EPA is suppressing this report and prohibiting public access. Can EPA cite a specific reference to clarify by what jurisprudence the EPA is able to keep this report out of the public domain? (adapted from Wendy Lumetta #1)

EPA Response: EPA has not released that information because we consider that consultation with the NRRB to be a part of our deliberations in our decision making process for the final remedy. Exemption 5 of the Freedom of Information Act protects documents created during what is known as the "deliberative process." For more information about Exemption 5, please

visit the following link: <http://www.justice.gov/oip/foia-guide-2004-edition-exemption-5>.

10. If the USGS Report is still not available for review at the December CAG meeting, please provide the name and telephone number of your contact within the USGS to request expediting the report due to the fire? (Wendy Lumetta #2)

EPA received the USGS groundwater report on December 17. This report is available on EPA's West Lake Landfill web page:

[http://www.epa.gov/region07/cleanup/west\\_lake\\_landfill/pdf/west-lake-usgs-gw-rpt-12-17-14.pdf](http://www.epa.gov/region07/cleanup/west_lake_landfill/pdf/west-lake-usgs-gw-rpt-12-17-14.pdf)

11. In a public meeting, Lois Gibbs told attendees that EPA performs a cost-benefit analysis based on the value of human life, which is tied to the income potential of the residents affected by a Superfund site. To your knowledge, does the 2012 NRRB report or any other internal document have such a cost-benefit analysis of the site and surrounding communities? If so, what are the results? Please explain how cost-benefit analysis is used in the Superfund decision-making process. (adapted from Wendy Lumetta #3)

EPA Response: The EPA does not perform any "cost-benefit analysis" that effectively exchanges cleanup costs for human life. Our Agency's primary mission has always been, and remains, the protection of human health and the environment. By CERCLA statute, the cost of all remedies are considered in the Feasibility Study (FS), which is publicly documented in the remedy's Administrative Record. Even within the scope of a FS, the value of human life is never compromised or simply cast aside for a remedy cost savings. This applies to all communities in which the EPA operates, and is performed in accordance with all laws and regulations regardless of community income or size.

12. The CAG would like EPA to provide 2 site maps of the Bridgeton and West Lake Landfill area - one map that shows previously designated areas of known RIM and one map that is updated to show where additional RIM is known to be located based on the Gamma Cone Penetration Test performed recently to determine the location for the subsurface fire barrier. (adapted from Wendy Lumetta #4)

EPA Response: A map defining the previously designated areas of RIM can be found in the 2008 Record of Decision, Figure 5-5. The GCPT Phase I report is available on EPA Region 7's West Lake Landfill website:

[http://www.epa.gov/region7/cleanup/west\\_lake\\_landfill/pdf/isolation-barrier-phase-1-report.pdf](http://www.epa.gov/region7/cleanup/west_lake_landfill/pdf/isolation-barrier-phase-1-report.pdf)

13. Regarding the leachate pipes that will be transporting leachate to the Metropolitan Sewer District (MSD), what safeguards have the EPA required of the impacted municipalities regarding ongoing safety? As the leachate is acidic, corrosive and filled with many toxins that could potentially erode the line, what safeguards are in place to assure there are no leaks along the leachate line that could pollute surrounding communities? (Wendy Lumetta #5)

TASC Comment: CAG members may want to ask Missouri Department of Natural Resources if the leachate piping from the landfill to the MSD is dual containment (jacketed or double-walled).

The July 2014 Incident Management Plan for Bridgeton Landfill can be downloaded from this website: <http://www.dnr.mo.gov/bridgeton/BridgetonSanitaryLandfillReports.htm>. Page 28 of the document contains this text:

“All leachate conveyance piping is dual containment with the exception of the pressurized well manifolds. This piping lies entirely on top of flexible membrane line and is connected to dual containment sumps. Single walled piping may be used in temporary applications when necessary.”

EPA Response: The leachate that is being directed to MSD’s Bissell Point Wastewater Treatment Plant for final treatment receives preliminary treatment at the newly operational Bridgeton Pretreatment WWTP. This preliminary treatment is designed to adjust the pH, reduce metals, settle solids and reduce organic material that reduces oxygen in the water column. MSD has issued Bridgeton Landfill an Industrial Wastewater Discharge Permit that limits the amount of flow and the pollutant load that can be discharged to MSD collection system. MSD has an Operation and Maintenance plan that is followed to monitor the structural soundness of the collection system that is intended to ensure the collection system operates as designed.

14. The CAG would like EPA to clarify whether capping and leaving contamination in place at West Lake Landfill, as described in the 2008 ROD, is still being considered as a remedial option? (adapted from Wendy Lumetta #6)

EPA Response: At this time, EPA has not eliminated any potential remedy from consideration because the Agency has not finished conducting the Supplemental Feasibility Study (SSFS). Upon completion of the SSFS, which includes a thorough analysis of remedial alternatives considered by the Agency, the Agency will announce its preferred remedial alternative.

15. The CAG would like to formally request that EPA cleanup the West Lake Landfill Superfund site to a minimum excess lifetime cancer risk of 1 in a million ( $1 \times 10^{-6}$ ) for future onsite workers, future trespassers and future offsite residents. We feel that the nature of the combined typical landfill and radioactive contaminants is such that there are too many unknowns to accept a cleanup level to 1 in 10,000 or even 1 in 100,000. Does EPA need additional documentation of this request from the CAG? (adapted from Harvey Ferdman)

EPA Response: EPA acknowledges the CAG’s comment and suggests resubmitting this comment again during the official public comment period after EPA announces its preferred remedial alternative.

16. Are there any laws regarding "Sellers Disclosures" when selling your home within a mile of a Superfund Site (Does this have to be disclosed to potential buyers)? (Tonya Mason #3)

TASC Comment: We are not aware of any component of the Superfund law that requires nearby landowners to disclose the proximity of a Superfund site. State law may require such disclosure. The CAG may want to contact a real estate professional or real estate lawyer for more information about this topic.

EPA Response: EPA agrees with the TASC comment above.

17. Please try to answer questions in plain language using easy-to-read visuals. We frequently don't understand EPA explanations. (adapted from Carole Parsons)

EPA Response: EPA makes every attempt to answer questions using plain language in order to allow the community to better understand the site and its various components. The West Lake Landfill Superfund site is also extremely complex, which often merits technical discussion or descriptions. In order to better assist the community to more fully understand these complexities, EPA has provided technical assistance support to the CAG to work with the community to increase its understanding of site conditions. We encourage the CAG members to discuss your questions with Terrie Boguski, the TASC contractor providing technical assistance to the community.

18. What is the status of the Isolation Barrier project? (R. Steelman)

EPA Response: EPA Region 7 has been working with the USACE to review the isolation barrier analysis submitted by the PRPs in October along with comments received from various parties on this analysis. EPA, with technical expertise from the USACE, will make decisions on the next steps needed for the isolation barrier.

19. MCE submitted nine questions directly to EPA in October, the CAG is interested in EPA's answers to these questions. See addendum.

EPA Response: Provided below are EPA's responses to MCE's October questions:

1. Given the recent record-breaking drought in California and recent record-breaking levels of rainfall in Arizona, has the probability of a levee failure in the Earth City District been recalculated, on the basis that increasingly severe weather will be prompted by climate change? Did EPA Region 7 consider climate change in its 2008 ROD and will EPA Region 7 consider climate change in the ROD Amendment?

EPA Response: Relevant and predictable climatic or geologic events that are anticipated in this area (i.e., tornados, flooding, etc.) are typically addressed during evaluation of remedial alternatives in terms of implementability, and during remedial design.

2. Has the probability of a levee failure ever been calculated over a time frame of more than one hundred years?

EPA Response: The integrity of any landfill cover design will not be dependent on the levee's competency, regardless of the levee's calculated lifespan.

3. How can any probabilities of a levee failure be considered valid, when weather patterns thousands of years in the future are impossible to predict?

EPA Response: As stated before, the integrity of the landfill cover design will not be dependent on the levee's competency. The probability and/or validity of any event occurring thousands of years in the future are beyond the capability of existing scientific metrics or standards of measure, and therefore have not been considered by EPA.

4. When did EPA Region 7 first learn of the smoldering landfill fire in the South Quarry of OU-2?

EPA Response: EPA was initially notified by MDNR in December 2010 of the smoldering

when the landfill's gas composition had started to change and temperatures became elevated.

5. What circumstances or criteria does EPA Region 7 use to determine if a contractor hired by a PRP should be removed or disapproved?

EPA Response: EPA has no direct legal relationship with a PRP's contractor with regards to hiring or dismissing. Pursuant to EPA's Remedial Investigation/Feasibility Study Administrative Order on Consent with the PRPs, EPA has the ability to ensure contractors properly and promptly perform work at the Site. EPA may disapprove of the technical qualifications of the PRPs contractor and require a replacement to perform the work. EPA holds the PRP responsible for all work products or activities performed by their contractor.

6. How will the known risks of a smoldering or surface fire be considered in the EPA Region 7 ROD Amendment?

EPA Response: The EPA, U.S. Army Corps of Engineers, and EPA's landfill experts from the Office of Research and Development will continue to review and evaluate all relevant scientific data as a part of its decision making for the final remedy to include potential risks associated with the subsurface smoldering event.

7. Will EPA Region 7 provide a more in-depth qualitative assessment, not conducted by the PRPs, of the risk of a smoldering fire impacting the radioactive wastes? The reason for this question is that EPA Region 7 previously stated the 2 page ORD memo was sufficient for evaluating risk and independent. How can this be true when the ORD memo says, "A SSE may result in increased emissions of radon **and other contaminants** in the air and groundwater, even with annual inspections and proper maintenance of designs discussed in the 2008 ROD and 2011 SFS"? Does EPA Region 7 feel it's necessary to determine what "other contaminants" could be before making a ROD Amendment?

EPA Response: As described in the previous response, all relevant scientific data being collected at the Site is being reviewed and evaluated. The completion of this process will assist EPA in making a determination on whether any additional risk assessment/evaluation is required. In a January 15 letter to the PRPs, EPA announced its intention to perform testing on RIM samples to further analyze its physical properties.